

it is preeminently a sheep farm, the soil being a light loam resting on chalk; the main features of the farming consist of a breeding flock of the Romney Marsh breed, a small dairy herd of shorthorns and a large stock of poultry. There is a small hop garden, planted in 1895, to test the various systems in vogue of training hops and for other experimental work. The two fruit plantations are both young; one is used for teaching purposes, the other is mainly laid out for experiments. On the farm are situated the dairy, forge, carpenter's shop, apiary, &c.

The staff of the College consists of seven resident professors and lecturers, together with instructors in practical subjects, demonstrators, &c., the necessity for this extensive staff being that the College is also a centre for much

practical experience with the children of the Wye Elementary School.

At present there are some fifty to sixty students in residence, mostly taking the ordinary course, but a few are doing special work in the laboratories; it is hoped that such students will increase with the facilities the institution now affords for research which requires work both in the field and the laboratory. Both at home and in our Colonies and dependencies agriculture wants trained investigators and teachers if we are to keep our place, and the South Eastern Agricultural College is making a serious attempt to supply within the London University the kind of institution that has done such good service for American and German farming.



FIG. 2.—Biological Laboratory of the South Eastern Agricultural College.

extra-mural work in the counties of Kent and Surrey, such as courses of lectures, analyses of soils and manures, reports on crop diseases, field experiments and similar investigations. As regards the latter, experiments on the manuring and cultivation of hops have been carried on consecutively for six years, and results of considerable practical importance are beginning to emerge. Other work extending over several years has been done on the quality of barley as affected by manuring, the cost of growing sugar beet and its food value, and a systematic examination of the soils of Kent and Surrey has also been in progress for some time.

The normal course of instruction extends over two or three years; the College grants a diploma of its own, and with the constitution of a board of agricultural studies in the University of London it is expected that regulations for the degree course will soon be forthcoming.

Short sessions for special purposes are held from time to time; in August, for example, there will be a normal course of instruction in "nature knowledge" for elementary school masters, the outcome of two years'

### THE BRITISH ASSOCIATION.

GLASGOW MEETING, SEPTEMBER 11-18, 1901.

IN the first article which appeared in *NATURE* on May 23, particulars were given regarding the local arrangements as to reception room, rooms for sectional meetings, and the halls in which the presidential and other evening scientific lectures were to be delivered. The Friday evening lecture is to be given by Prof. W. Ramsay, on inert constituents of the atmosphere, and the Monday evening lecture is to be given by Mr. Francis Darwin, on the movements of plants.

Two important fixtures by the Excursions' and Entertainments' Committee have been made since the last notice, namely, the chartering of one of the Clyde steamers for a whole day's sail on Saturday, September 14, and the acceptance of an offer by Lord Blythswood, president of the Philosophical Society of Glasgow, to give a garden party in the Botanical Gardens on the afternoon of Monday, September 16.

Promises of numerous papers by eminent authors are

already received by the recorders of the different sections. Indeed, one or two of the sections generally get more papers than is necessary to fill the time of the sittings. For example, Section A not only meets on Saturday, but is also on two days actually divided into two sub-sections. On Friday it is to be divided into (1) physics, and (2) astronomy. On Monday it is to be divided into (1) mathematics, and (2) meteorology.

At this early stage a full and definite programme of the different sections cannot be given. But the following brief provisional programme may be taken as conclusively indicating that the meeting promises to be a most successful one from an educational and scientific point of view.

Section A (Mathematical and Physical Science).—A large number of papers are already promised for this section. The following may be mentioned:—Five papers, dealing with elasticity, viscosity, magnetic fields, and stress and magnetisation of nickel and cobalt, are promised from the physical laboratory of the University of Glasgow by Prof. Gray, his assistants and the research students in his department. Dr. Larmor will give a paper on radiation, Dr. Hicks a paper on the Michelson-Morley effect and Dr. Glazebrook a paper on optical glass. In the meteorological department, Mr. W. N. Shaw and one of his assistants will give two papers treating of the seasonal variations of air temperature.

Section B (Chemistry).—The following papers have already been promised:—On the transitional forms between crystalloids and colloids, by Messrs. J. H. Gladstone and W. Hibbert; the oxidation of tin, including the action of light, by Messrs. J. H. Gladstone and G. Gladstone. Papers on the following subjects will also be submitted:—On the deposition of ocean salts, on electrochemical processes and on the manufacture of cyanides.

Section C (Geology).—Papers to this section are promised by Messrs. William Gunn, B. N. Peach, R. H. Traquair, Robert Kidston and H. B. Woodward. Several others have intimated a wish to read short papers on subjects in which they are specially interested.

Section G (Engineering).—A paper on the mechanical exhibits at the Glasgow International Exhibition is being arranged for. After a report on road traction is submitted by a committee appointed for the purpose, papers bearing on this subject will be read by Messrs. A. R. Sennett, A. H. Gibbings and Sir J. H. A. Macdonald. The following papers will also be given to this section:—Protection of buildings from lightning, by Mr. K. Hedges; dielectric hysteresis, by Mr. W. M. Mordey; Panama Canal, by Mr. M. Buon Varilla; tunnelling in quicksand, by Mr. M. A. Gobert; chain driving, by Mr. C. Garran; engraving machinery, by Mr. M. Barr; and aluminium as a fuel, by Sir W. C. Roberts-Austen. Mr. Barr will probably show his apparatus working in the municipal buildings during the evening of Thursday, September 12.

Section K (Botany).—There will be a discussion in this section on the teaching of botany, opened by Mr. Wager from the standpoint of botany teaching in schools, and by Prof. Bower from the point of view of University teaching. Profs. Ward, Scott-Elliott, Miall and others will take part in the discussion. It is intended to ask members of Section L, the educational section, to take a share in the discussion. Prof. Reynolds Green will probably give a semi-popular lecture on a botanical subject of general interest.

Section L (Educational Science).—After the president, Sir John E. Gorst, delivers his presidential address, it is expected there will be a discussion on Scottish educational systems. This discussion will probably be introduced by two papers, one by Mr. John Adams, on mechanism of education in Scotland, and the second by Dr. J. G. Kerr, on the training of the practical person.

On account of the International Exhibition there is a great influx of visitors to Glasgow, and members of the British Association who intend to be present at the Glasgow meeting are strongly recommended to make early arrangements for their rooms. The local committee have prepared a list of hotels and a preliminary list of lodgings and apartments. This list is ready to be sent to any inquirer. MAGNUS MACLEAN.

### NOTES.

PROF. A. W. RÜCKER, professor of physics at the Royal College of Science and secretary of the Royal Society, has been appointed principal of the University of London. We are informed that, in consequence of his appointment to this post, Prof. Rücker will resign the secretaryship of the Royal Society at the next anniversary meeting.

PROF. VIRCHOW's eightieth birthday will be celebrated in Berlin on Saturday, October 12, when he will personally receive delegates with congratulatory addresses from various scientific bodies, foreign as well as German. Prof. Waldeyer is the president of the executive committee.

THE Council of the Royal Society has awarded the Mackinnon studentship to Mr. J. J. R. Macleod, demonstrator of physiology in the London Hospital Medical College, for the purpose of enabling him to carry out researches in pathological chemistry. The studentship is founded under a bequest to the Royal Society by the late Sir William Mackinnon, Director-General of the Medical Department of the Army, for the foundation and endowment of prizes or scholarships for the special purpose of furthering natural and physical science, and of furthering original research and investigation in pathology. The studentship, for which fourteen applications were received, is of the annual value of 150*l*.

THE death is announced of Mr. J. Hamblin Smith, the well-known mathematical coach at Cambridge and author of numerous successful text-books of elementary mathematics. Mr. Smith was seventy-four years of age.

PROF. PASQUALE VILLARI has been elected president of the Reale Accademia dei Lincei, of Rome, in succession to the late Prof. Messedaglia.

AN excursion to the Auvergne district has been arranged by the Geologists' Association. The party will leave London on the evening of Thursday, August 15, and will journey to Clermont, which will be the centre of the excursions. The visit will last a fortnight, and an excellent programme has been arranged under the direction of Prof. Marcellin Boule, Prof. P. Glangeaud and M. J. Giraud.

A TELEGRAM from Ponta Delgada to the *Times* states that the International Meteorological Observatory in the Azores was inaugurated on July 10 by the King of Portugal. The Portuguese Prime Minister, the Minister of Marine, the civil governor of the islands and the different authorities, together with a number of Portuguese officers and the officers of the British cruisers *Australia* and *Severn*, were present at the ceremony.

WE are sorry to learn that the biological station which had been kept on Lake Baikal for a year by the East Siberian Geographical Society, at Goloustnaya, on the west coast, has been closed. A rich collection of fishes, especially of *Cottus* species, and a great variety of *Gammarus* species have, however, been secured, and the latter are in the hands of Prof. Sars, of Christiania.

ON Tuesday, July 16, a deputation of members of Parliament and engineering and shipbuilding societies waited upon Lord